

THERE WILL BE NO CHANGES IN SPECIFICATION, DIMENSIONS, OR MATERIALS UNLESS APPROVED BY THE ENGINEER RESPONSIBLE FOR THIS DRAWING.

THE DRAWINGS ARE PREPARED COOPERATIVELY BY THE NATURAL RESOURCE CONSERVATION SERVICE FOR THE NAMED LANDOWNER. CONSTRUCTION FOUND NOT IN ACCORDANCE WITH THESE DRAWINGS AND SPECIFICATIONS SHALL VIOLATE THE COOPERATIVE AGREEMENT AND ALL DRAWINGS, SPECIFICATIONS, AND QUANTITIES ESTIMATE SHALL IMMEDIATELY BE RETURNED TO THE LOCAL NRCS OFFICE.

SAFETY REGULATIONS

ALL EXCAVATION AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MARYLAND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (MOSHA) STANDARDS AS SET FORTH IN THE LATEST VERSION OF THE CODE OF MARYLAND REGULATIONS

OWNER/CONTRACTOR STATEMENT

I CERTIFY THAT THIS DESIGN HAS BEEN EXPLAINED TO ME BY A REPRESENTATIVE OF THE DISTRICT SOIL CONSERVATION DISTRICT, AND I UNDERSTAND THE CONTENTS. ALL CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND SPECIFICATIONS. I FURTHER UNDERSTAND THAT ALL CONSTRUCTION WILL BE UNDER THE INSPECTION OF THIS OFFICE.

OWNER'S SIGNATURE DATE

CONTRACTOR'S SIGNATURE DATE

CONSTRUCTION NOTIFICATION

The Contractor/Owner is to notify the DISTRICT SOIL CONSERVATION DISTRICT at least 72 hours prior to construction to facilitate any scheduling, layout, or preliminary mobilization necessary to ensure proper construction inspection to enable appropriate certification of the project.

It is the Landowner's responsibility to obtain all County, State, and Federal permits that may be needed, and to maintain this structure and related regulations.

GENERAL NOTES:

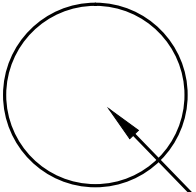
- PLEASE CONTACT THE DISTRICT SOIL CONSERVATION DISTRICT AT LEAST 3 DAYS PRIOR TO CONSTRUCTION TO ARRANGE A PRE-CONSTRUCTION MEETING @ PHONE #
- A CONSERVATION TECHNICIAN SHALL VERIFY CUT/GRADE STAKES AT THE CONTRACTORS REQUEST

CONSTRUCTION SEQUENCE:

- CONTACT THE DISTRICT SOIL CONSERVATION DISTRICT AT PHONE # TO ARRANGE A PRE-CONSTRUCTION MEETING.
- CONTACT MISS UTILITY AT 811
- INSTALL UPPER SANDBAG DIVERSION
- INSTALL UPPER DEWATERING BASIN
- INSTALL UPPER PUMP AROUND DEVICE
- EXCAVATE AREA FOR FOOTER STONE AND INSTALL FOOTER STONE
- INSTALL FOOTER IMBRICATED RIPRAP, BACKFILLING WITH #57 CLEAN STONE AND GEOTEXTILE FABRIC
- INSTALL NEXT COURSE OF IMBRICATED RIPRAP, INSTALL FINAL COURSE WHEN PREVIOUS COURSE HAS BEEN BACKFILLED WITH #57 STONE AND GEOTEXTILE FABRIC
- BACKFILL TOP COURSE WITH TOPSOIL AND GRADE INTO EXISTING BANK
- INSTALL EROSION CONTROL MATTING(JUTE) AND SHRUBS ON SHORELINE AS INDICATED ON THE PLAN
- REMOVE SEDIMENT CONTROLS AND STABILIZE DISTURBED AREAS IN UPPER SECTION.
- INSTALL LOWER SANDBAG DIVERSION
- INSTALL LOWER DEWATERWING DEVICE
- INSTALL LOWER PUMP AROUND DEVICE
- FOLLOW SAME PROCEDURE AS EXPLAINED ABOVE IN #6 - #10
- REMOVE ALL SEDIMENT CONTROLS AND STABILIZE ALL DISTURBED AREAS

LANDOWNER

580- STREAMBANK AND SHORELINE PROTECTION (DISTRICT SOIL CONSERVATION DISTRICT)



SITE

VICINITY MAP N.T.S.

SHEET

TITLE

- EROSION AND SEDIMENT CONTROL
- PLAN VIEW AND PROFILES
- CROSS SECTIONS AND IMBRICATED RIPRAP DETAIL
- SOIL BIOENGINEERING



Know what's below. Call before you dig.

"The Soil Conservation District makes no representation as to the existence or Non-existence of any utilities at the construction site. Shown on these construction drawings are those utilities which have been identified. It is the responsibility of the landowners or operators and contractors to assure themselves that no hazard exists or damage will occur to utilities"

AS-BUILT STATEMENT

THE CONSERVATION PRACTICE(S) MEETS OR EXCEEDS NRCS STANDARDS AND SPECIFICATIONS

INSPECTED BY	SIGNATURE	DATE
CONSTRUCTION APPROVAL	SIGNATURE	DATE
VERIFIED DISTRICT CONSERVATIONIST	SIGNATURE	DATE

MM/YY	Designed	Drawn	Checked	Approved Title	Date	Job	Class
LANDOWNER				580 - STREAMBANK AND SHORELINE PROTECTION TRACT City, Maryland			
United States Department of Agriculture				Maryland Department of Agriculture			
USDA				Natural Resources Conservation Service			
REVISIONS		Approved					
Date	Description						
File No. *.DWG							
Sheet 1 of 5							

MATERIALS LIST

SITE DATA:

LANDOWNER INFORMATION: STREAM CLASSIFICATION:

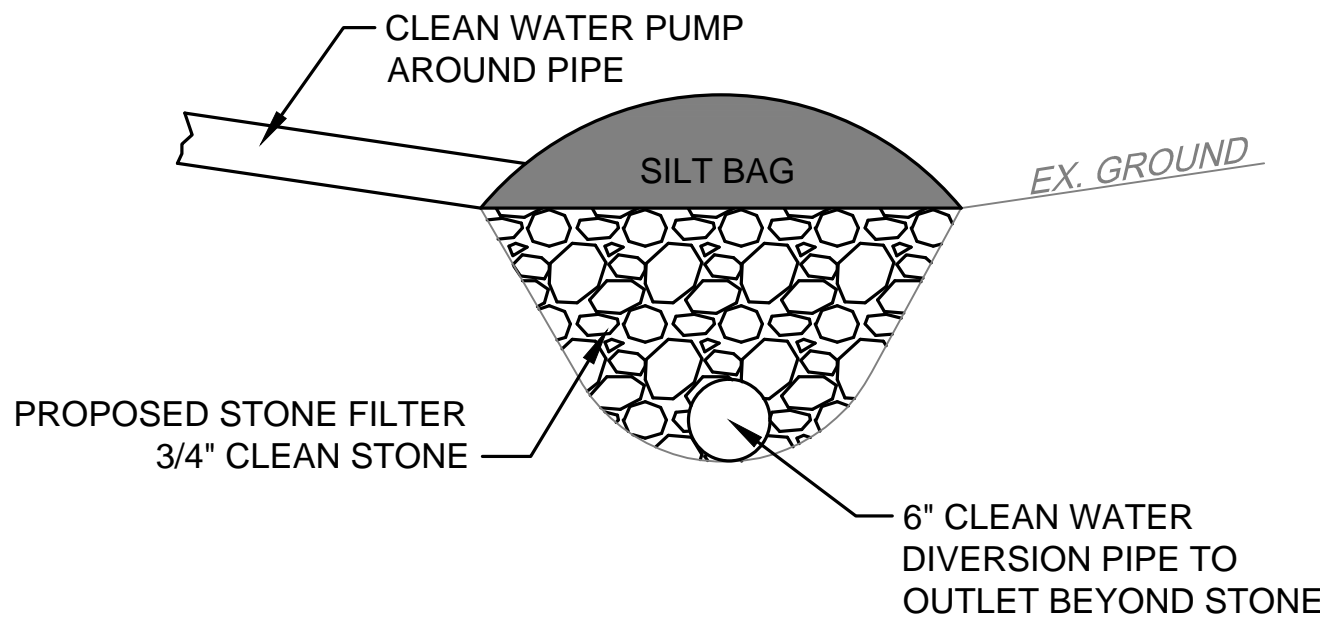
STREAM CLOSED MARCH 1 - JUNE 15
TOTAL LENGTH OF STREAM IMPACT = 297FT

CONTACT PERSON:

SITE DETAILS:
TOTAL DISTURBED ACRES = ±
TOTAL DISTURBED SQFT = ±

CONSTRUCTION SUPERVISION BY NRCS/MDA/SCD PERSONNEL

LANDOWNER'S PERMISSION FOR MDE AND COE INSPECTION



TEMPORARY STONE FILTER DETAIL
NOT TO SCALE

DETAIL F-4 FILTER BAG

STANDARD SYMBOL
☒FB

CONSTRUCTION SPECIFICATIONS

- TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
- PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
- CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
- REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
- USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4633
FLOW RATE	70 GAL/MIN/FT*	ASTM D-4491
PERMITTIVITY (SEC ⁻¹)	1.2 SEC ⁻¹	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

- REPLACE FILTER BAG IF BAG CLOS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

2011

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL
—SSF—

CONSTRUCTION SPECIFICATIONS

- INSTALL 2 3/8 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 3/8 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

2011

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

EROSION & SEDIMENT CONTROL

Maryland's Guidelines To Waterway Construction
DETAIL 1.1: DEWATERING BASINS

TEMPORARY INSTREAM
CONSTRUCTION MEASURES

REVISED NOVEMBER 2000
PAGE 1.1 - 2

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

Maryland's Guidelines To Waterway Construction
DETAIL 1.5: SANDBAG/STONE DIVERSION

TEMPORARY INSTREAM
CONSTRUCTION MEASURES

REVISED NOVEMBER 2000
PAGE 1.5 - 3

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

MM/YY	Designed	PROTECTION	Approved	Date
	Drawn			
580	—	STREAMBANK AND SHORELINE TRACT	Maryland	City,
United States Department of Agriculture	Natural Resources Conservation Service	DISTRICT Soil Conservation District	Job	Class
REVISIONS	Approved			
	Description			
Date				
File No. *.DWG				
Sheet 2 of 5				

PLAN VIEW

- Shrubs (potted)**

 - Spicebush.....Height: 6.5-16'
 - Common Elderberry.....Height: 6-12'
 - Smooth Alder.....Height: 12-20'
 - Highbush Blueberry.....Height: 6-12'
 - Silky Dogwood.....Height: 6-12'
- Trees**

 - River Birch.....Height: 50-75'
 - Eastern Redbud.....Height: 20-35'
- SPICEBUSH
 - COMMON ELDERBERRY
 - SMOOTH ALDER
 - HIGHBUSH BLUEBERRY
 - SILKY DOGWOOD
- RYVER BIRCH
 - EASTERN REDBUD

PROFILES/CROSS SECTIONS

REVISIONS	Date	Description	Approved	United States Department of Agriculture	LANDOWNER 580 – STREAMBANK AND SHORELINE PROTECTION TRACT City, Maryland	Designed Drawn Checked	MM/YY
File No. *.DWG				Maryland Department of Agriculture DISTRICT Soil Conservation District		Approved Title Date Job Class	
Sheet 3 of 5							

STATE HIGHWAY ADMINISTRATION GEOTEXTILE REQUIREMENTS						
Maryland Application Class	Type of Geotextile	Grab Strength Lb D 4632	Puncture Strength Lb D 4833	Permittivity Sec ¹	Apparent Opening Size, Max Mm D 4751	Trapezoid Tear Strength Lb D4533
SD	NONWOVEN	160	55	0.50	0.43	55
	TYPE I	WOVEN, MONOFILAMENT	250	90	0.50	90
SD	NONWOVEN	160	55	0.20	0.25	55
	TYPE II	WOVEN, MONOFILAMENT	250	90	0.20	90
PE	NONWOVEN	200	80	0.70	0.43	80
	TYPE I	WOVEN, MONOFILAMENT	250	90	0.70	90
PE	NONWOVEN	200	80	0.20	0.25	80
	TYPE I	WOVEN, MONOFILAMENT	250	90	0.20	90
PE	NONWOVEN	200	80	0.10	0.22	80
	TYPE III	WOVEN	250	90	0.10	90
SE	NONWOVEN	200	80	0.20	0.30	80
	WOVEN	250	90	0.20	0.30	90
ST	WOVEN	300*	110	0.05	0.15**	110
F	WOVEN	100	-	0.05	0.50	-
E	NONWOVEN	90	30	0.05	0.30	30

Note: 1. All property values are based on minimum average roll values in the weakest principle direction, except for apparent opening size.
Note: 2. The ultraviolet stability shall be 50 percent after 500 hours of exposure for all classes, except Class F, which shall be 70 percent (D 4355).
* Minimum 15 percent elongation.
** This is a minimum apparent opening size, not a maximum.

DETAIL B-4-6-D

PERMANENT SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL
PSSMS - * lb/ft²
(* INCLUDE SHEAR STRESS)

OVERLAP OR ABUT ROLL EDGES (TYP.)

6 IN DEEP (MIN.) KEY IN TRENCH

FILL MAT VOIDS IF SPECIFIED (SEE NOTE 9)

6 IN MIN. OVERLAP AT ROLL END (TYP.)

PREPARED SLOPE WITH SEED IN PLACE

ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- UNROLL MATTING DOWN SLOPE. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
- KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

2011

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

Maryland's Guidelines To Waterway Construction

DETAIL 2.11(b): TOE PROTECTION

Adapted From Seibert (1968)

RIPARIAN VEGETATION ACCORDING TO BANK ZONE

▽ MHW (bankfull - annual mean high water level)

▽ MW (annual mean water level)

▽ MLW (annual mean low water level)

Aquatic plant zone	Reed bank zone	Softwood zone	Hardwood zone
<ul style="list-style-type: none">PondweedWater crowfootWhite waterlily	<ul style="list-style-type: none">BulrushCattailCommon reedPond sedgeReed grassReedmaceSweet flagYellow flag	<ul style="list-style-type: none">AlderAlder buckthornAshGuelder roseHawthornHazelRed dogwoodWillow	<ul style="list-style-type: none">AshBird cherryDewberryElmHornbeamMapleOakPoplar

SLOPE PROTECTION AND STABILIZATION TECHNIQUES

REVISED NOVEMBER 2000
PAGE 2.11 - 4

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

CROSS SECTION OF BANK

TOP VIEW
NOT TO SCALE

NOTES:

- EROSION CONTROL FABRIC SHOULD BE PLACED ON SLOPES ADJACENT TO EROSION INUNDATION
- MATERIALS SHALL BE INSTALLED THE SAME DAY THAT THEY ARE PREPARED
- DEAD STOUT STAKES SHALL BE PLACED ON THE TOP EDGE OF JUTE MATTING AND WHERE JUTE MATTING MEETS THE TOE PROTECTION (USE 5-7" SPACINGS)

NRCS

JUTE MATTING DETAIL

Designed _____ Date _____ File No. _____

Drawn _____ Drawing No. _____

Checked _____ Sheet _____ of _____

Approved _____

CROSS SECTION OF BANK
NOT TO SCALE

NOTES:

- TOP OF ROCK SHALL BE ABOVE BANK FULL ELEVATION
- FOOTER ROCK SHALL BE 1' BELOW CL OF THALWEG
- SLOPE OF ROCK SHALL BE EQUAL TO EXISTING BANK SLOPE
- DEPENDING ON STREAM BOTTOM TYPE, GEOTEXTILE AT THE BOTTOM OF THE FOOTER DRAIN WILL BE DETERMINED AT TIME OF CONSTRUCTION

NRCS

IMBRICATED RIPRAP
DETAIL

Designed _____ Date _____ File No. _____

Drawn _____ Drawing No. _____

Checked _____ Sheet _____ of _____

Approved _____

Maryland's Guidelines To Waterway Construction

DETAIL 2.2: IMBRICATED RIPRAP

DEFINITION SKETCH

SECTION VIEW

PLAN VIEW

Construction Note: stone blocks shall be rotated into the bank during placement such that the upstream blocks overlap the downstream blocks by a minimum of 3 inches

SLOPE PROTECTION AND STABILIZATION TECHNIQUES

REVISED APRIL 2004
PAGE 2.2 - 3

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

MM/YY

Designed _____

Drawn _____

Checked _____

LANDOWNER

580 — STREAMBANK AND SHORELINE PROTECTION

TRACT Maryland City, Maryland

Approved _____ Date _____

Title _____ Job Class _____

United States Department of Agriculture

USDA

Natural Resources Conservation Service

REVISIONS

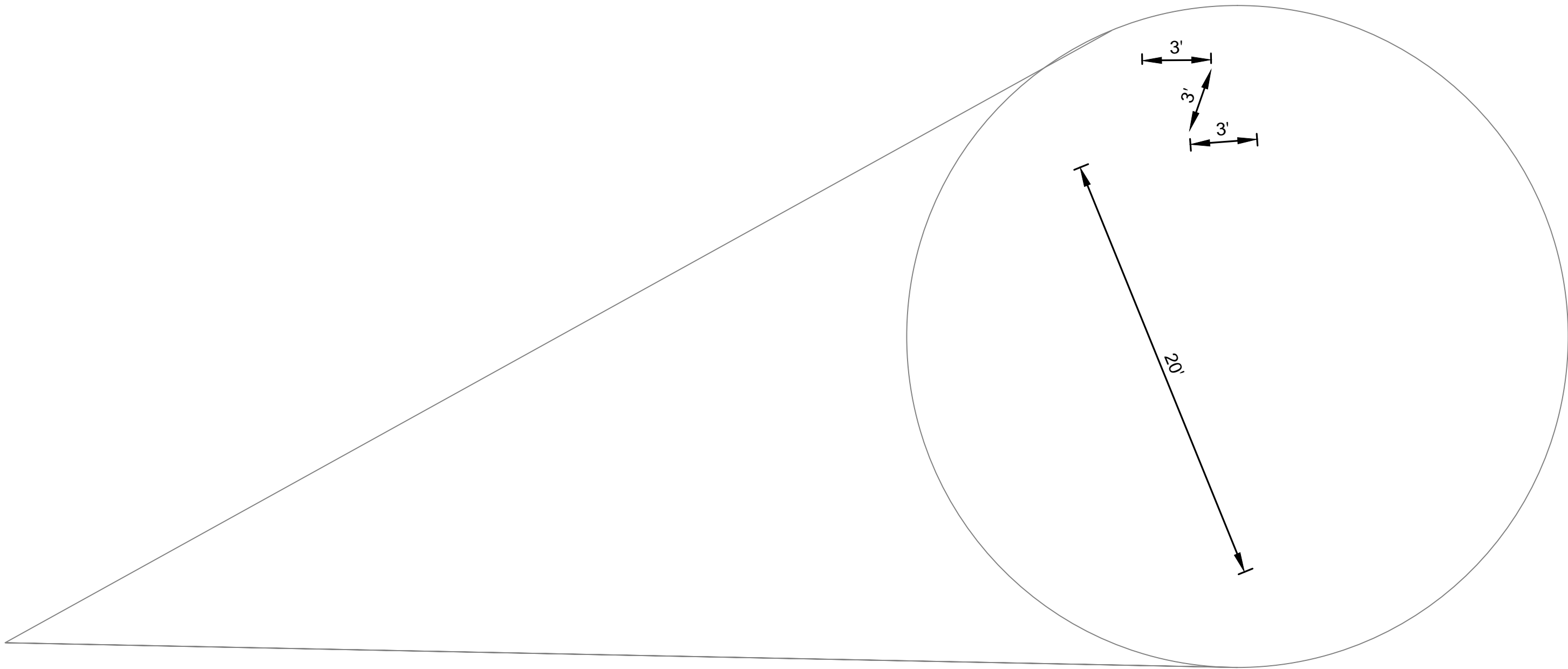
Approved _____

Description _____

Date _____

File No. *DWG

Sheet 4 of 5



PLANTING DETAIL
N.T.S.

NOTE:
PLANTING DETAIL IS TO BE USED AS A GUIDE. PLANTING LOCATIONS AND TYPES OF SPECIES MAY BE CHANGED IF DESIRED. NATIVE SPECIES MUST BE USED. CONTACT THE DISTRICT SOIL CONSERVATION DISTRICT TO DETERMINE IF SPECIES ARE NATIVE PRIOR TO PURCHASING THEM.

SEEDING DATES FOR CONTAINERIZED STOCK:
MARCH 1 - MAY 15
MAY 16 - JUNE 30
SEPT 15 - NOV 30

Shrubs (potted)		Trees	
Spicebush.....	Height: 6.5-16'	River Birch.....	Height: 50-75'
Common Elderberry.....	Height: 6-12'	Eastern Redbud.....	Height: 20-35'
Smooth Alder.....	Height: 12-20'		
Highbush Blueberry.....	Height: 6-12'		
Silky Dogwood.....	Height: 6-12'		

LEGEND

- SHRUBS**
- SPICEBUSH
 - COMMON ELDERBERRY
 - SMOOTH ALDER
 - HIGHBUSH BLUEBERRY
 - SILKY DOGWOOD
- TREES**
- RIVER BIRCH
 - EASTERN REDBUD

TOTAL POTTED SHRUBS (UPPER SECTION).....75
BASED ON THE PROPOSED PLANTING, THERE ARE 15 SPECIES OF EACH SHRUB

TOTAL TREES(UPPER SECTION).....6
BASED ON THE PROPOSED PLANTING, BELOW ARE THE AMOUNT OF TREES NEEDED:
RIVER BIRCH.....3
EASTERN REDBUD....3

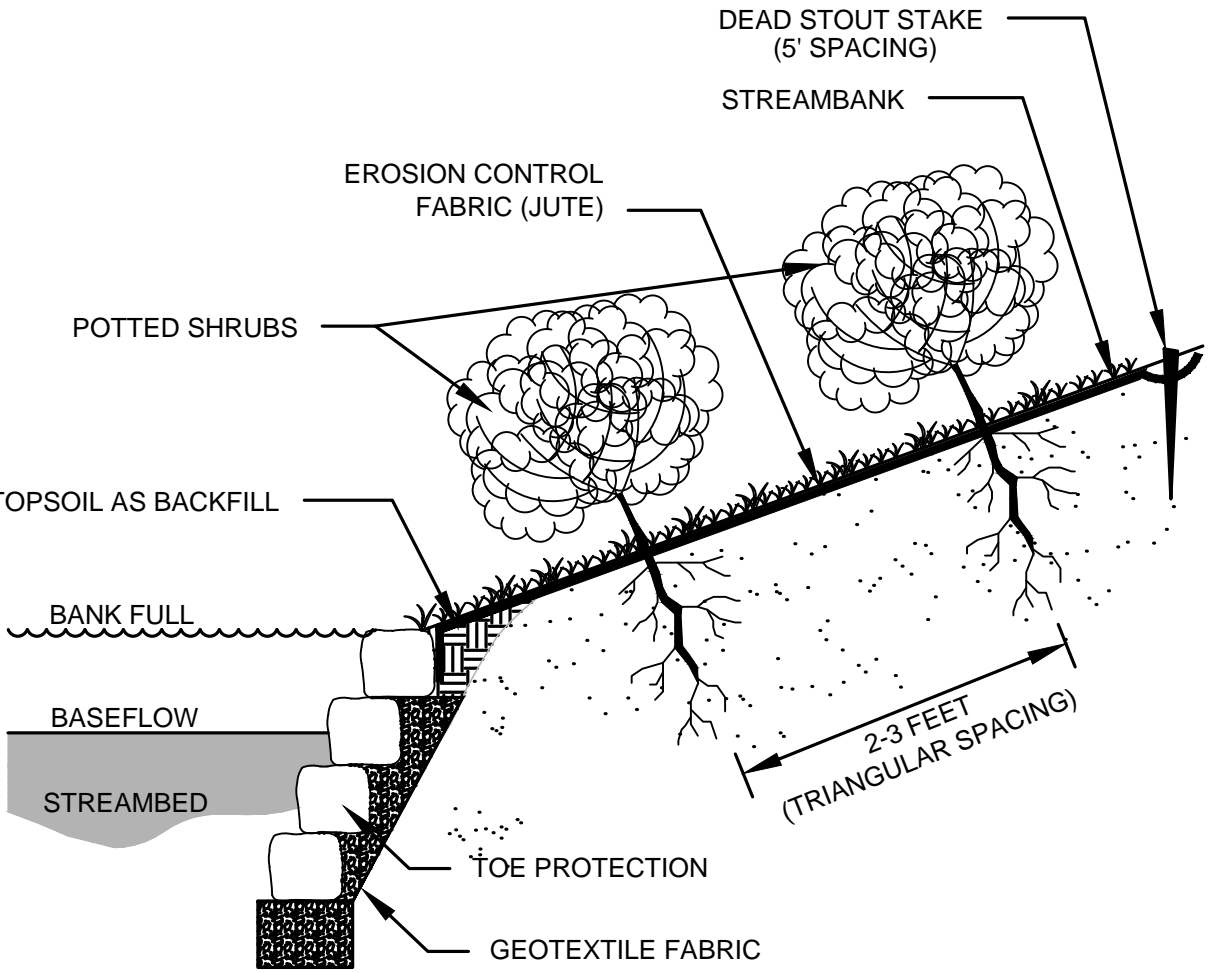
TOTAL POTTED SHRUBS (LOWER SECTION).....100
BASED ON THE PROPOSED PLANTING, THERE ARE 20 SPECIES OF EACH SHRUB

TOTAL TREES(LOWER SECTION).....8
BASED ON THE PROPOSED PLANTING, BELOW ARE THE AMOUNT OF TREES NEEDED:
RIVER BIRCH.....4
EASTERN REDBUD....4

Shrubs (potted)		Trees	
Spicebush.....	Height: 6.5-16'	River Birch.....	Height: 50-75'
Common Elderberry.....	Height: 6-12'	Eastern Redbud.....	Height: 20-35'
Smooth Alder.....	Height: 12-20'		
Highbush Blueberry.....	Height: 6-12'		
Silky Dogwood.....	Height: 6-12'		

- SPICEBUSH
- COMMON ELDERBERRY
- SMOOTH ALDER
- HIGHBUSH BLUEBERRY
- SILKY DOGWOOD

- RIVER BIRCH
- EASTERN REDBUD



CROSS SECTION OF BANK
NOT TO SCALE

- NOTES:
- EROSION CONTROL FABRIC (JUTE) SHALL BE PLACED ON SLOPES ADJACENT TO EROSION INUNDATION. TIE MATTING BEHIND RIPRAP ALONG TOE AND UPPER SLOPE USE DEAD STOUT STAKES TO STABILIZE
 - MATERIALS SHALL BE INSTALLED THE SAME DAY THAT THEY ARE PREPARED
 - PLACEMENT AND SPACING OF SHRUBS MAY VARY DEPENDING ON SPECIES USED



SHRUB PLANTING
DETAIL

Designed _____	Date _____	File No. _____
Drawn _____		Drawing No. _____
Checked _____		
Approved _____		Sheet _____ of _____

LANDOWNER TRACT				PRACTICE(S)			
TOTAL AREA	AREA 1	AREA 2	AREA 3				
MATERIALS/RATE	AMOUNT PLANNED	AMOUNT APPLIED	AMOUNT PLANNED	AMOUNT APPLIED	AMOUNT PLANNED	AMOUNT APPLIED	
FERTILIZER 10-20-20 500LBS/AC							
LIME - 2TNS/AC DOLOMITIC							
SEED MIXTURE (SEE BELOW)							
MULCH 2 TONS/AC							
ENTER KINDS AND AMOUNT OF SEED BELOW				NOTE: INOCULATE ALL LEGUMES			
AREA 1 NRCS SEED MIX #	AREA 2 NRCS SEED MIX #	AREA 3 NRCS SEED MIX #					
SITE PREPARATION AND OTHER PERTINENT INFORMATION: DISK ALL DISTURBED AREAS TO A DEPTH OF 4-6" CULTIPACK AFTER SEEDING				SEEDING DATES SPRING: FALL:			
PLAN APPROVED BY:			CHECKED FOR TECHNICAL COMPLIANCE BY:				
TITLE		DATE	TITLE		DATE		
USDA UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE MARYLAND		SEEDING		DRAWING NO. S-1.0 ISSUE DATE: 7/2014			

PLAN VIEW

SOIL BIOENGINEERING

Designed _____	MM/YY _____
Drawn _____	
Checked _____	
LANDOWNER 580 — STREAMBANK AND SHORELINE PROTECTION TRACT City, Maryland	
Approved _____ Date _____ Title _____ Job Class _____	
Maryland Department of Agriculture DISTRICT Soil Conservation District	
United States Department of Agriculture Natural Resources Conservation Service	
REVISIONS	Approved _____
Description	
Date	
File No. *.DWG	
Sheet 5 of 5	